

## **ABSTRACT**

Human interlocutors work together in conversation even on simple communicative tasks such as identifying the objects they are talking about. I will describe, demonstrate and visualize a computational model of the reasoning and representations underlying such activities.

The model characterizes pragmatic reasoning as a general process that infers consistent collaborative intentions to explain agents' contributions to joint activity. In conversation, this inference operates directly over declarative representations of the linguistic structure and meaning of utterances. It can be fully interleaved with incremental syntactic processing in both understanding and generation.

The approach depends on adopting a concise, modular architecture with reversible linguistic processing, formalizing an information-state model of the task of referring, and linking the meanings of utterances flexibly to the content they can contribute to collaborative problem solving.

## **BIOSKETCH**

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Matthew Stone received an ScB in Cognitive and Linguistic Sciences from Brown University in 1992, and his PhD in Computer Science from the University of Pennsylvania in 1998. Stone's interests span computational models of communicative action in conversational agents and include work on generation of coordinated verbal and nonverbal behavior in conversation (presented most recently at SIGGRAPH 2004).

He has distributed a "talking-head" system RUTH, which is freely available for research in conversational animation. Stone served on the program committee of IJCAI 2003 and as Tutorial Chair of AAAI 2004, and has participated in virtual humans tutorials at ACL 1999, CASA 2003, and ESSLLI 2005.